

Figure 1: Verification of differential expression of human DAX-1 by quantitative RT-PCR

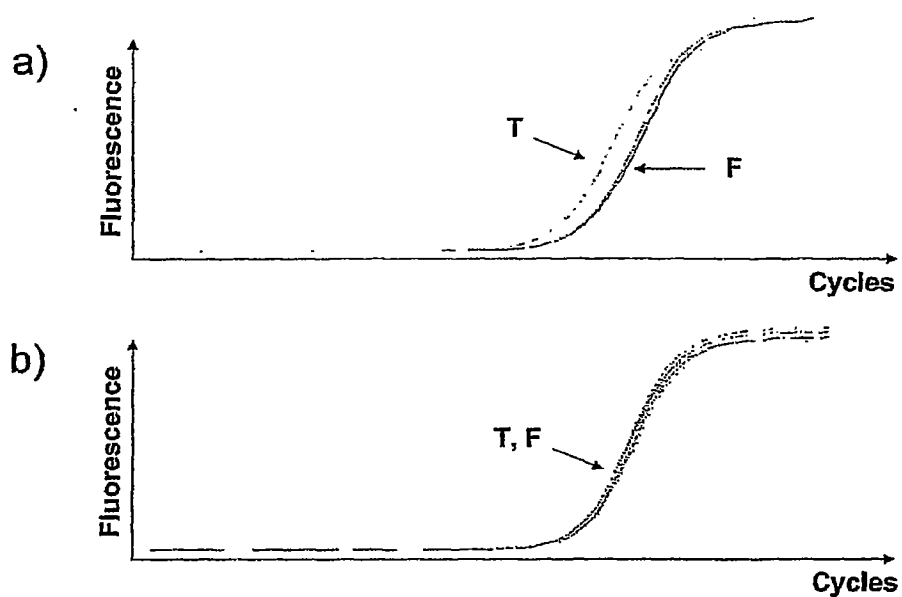


Figure 2: Verification of differential expression of human DAX-1 by quantitative RT-PCR

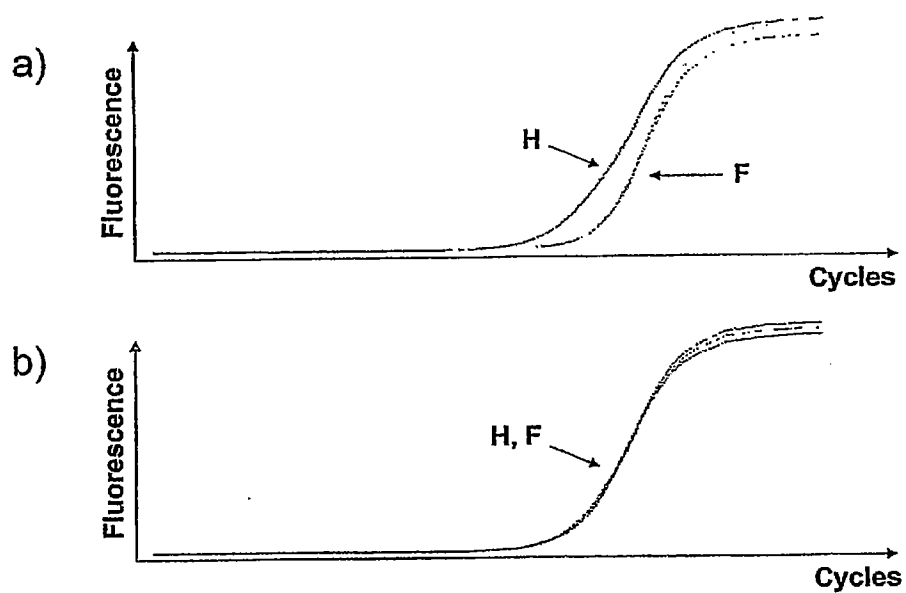
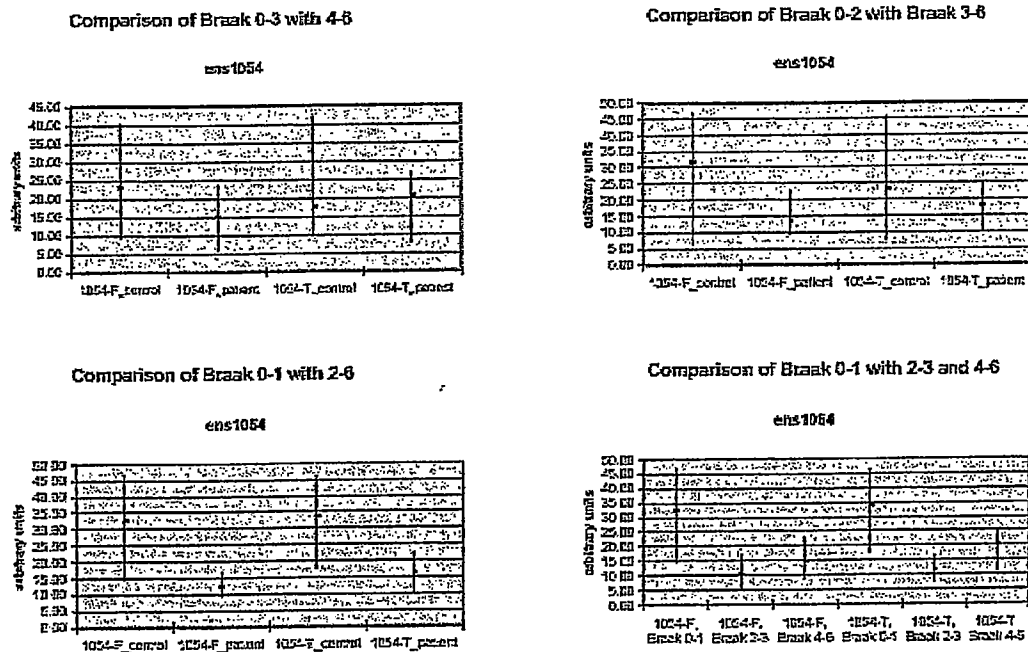


Figure 3: Analysis of absolute mRNA expression of DAX-1



**Figure 4: SEQ ID NO. 1:
amino acid sequence of
human DAX-1 protein**

Length: 470 aa

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1  MAGENHQWQG  SILYNMLMSA  KQTRAAPEAP  ETRLVDQCWG  CSCGDEPGVG
51  REGLLGGRNV  ALLYRCCFCG  KDHPROGSIL  YSMLTSAKQT  YAAPKAPEAT
101 LGPCWGCSCG  SDPGVGRAGL  PGGRPVALLY  RCCFCGEDHP  RQGSILYSLL
151 TSSKQTHVAP  AAPEARPGGA  WWDRSYFAQR  PGGKEALPGG  RATALLYRCC
201 FCGEDHPQQG  STLYCVPTST  NQAQAAPEER  PRAPWWDTSS  GALRPVALKS
251 PQVVCEAASA  GLKTLRFVK  YLPCFQVLPL  DQQLVLVRNC  WASLLMLELA
301 QDRLQFETVE  VSEPSMLQKI  LTTRRRETGG  NEPLPVPTLQ  HHLAPPAEAR
351 KVPSASQVQA  IKCFLSKCWS  LNISTKEYAY  LKGTVLFPND  VPGLOQVKYI
401 QGLQWGTQQI  LSEHTRMTHQ  GPHDRFIELN  STLFLLRFIN  ANVIAELFFR
451 PIIGTVSMDD  MMLEMLCTKI
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Figure 5: SEQ ID NO. 2: human DAX-1 cDNA nucleotide sequence

Length: 2022 bp

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1  GAGCTCCAC GCTGCTGTTC TTCCATTTCC AGCTTTTAAA GAGCACCCGC
51  CCCTTCGAAC CACCGAGGTC ATGGGCGAAC ACACCGGAGC GCAGACCGCG
101  CCCCCCGCA CACACCGCCC GCCTCCGCGC CTTTGCCAG ACCGAGGCGG
151  CCGACGCGCC TCGTGCGCGC CTAGGTATAA ATAGGTCCCA GGAGGCAGCC
201  ACTGGGCAGA ACTGGGCTAC GGGCGCCGCG GGCCATGGCG GGCGAGAACC
251  ACCAGTGGCA GGGCAGCATC CTCTACAACA TGCTTATGAG CGCGAAGCAA
301  ACGCGCGCGG CTCCTGAGGC TCCAGAGACG CGGCTGGTGG ATCAGTGTTG
351  GGGCTGTTCG TCGGCGCATG AGCCCGGGGT GGGCAGAGAG GGGCTGCTGG
401  GCGGGCGGAA CGTGGCGCTC CTGTACCGCT GCTGCTTTTG CGGTAAAGAC
451  CACCCACGGC AGGGCAGCAT CCTCTACAGC ATGCTGACGA GCGCAAAGCA
501  AACGTACGCG GCACCGAAGG CGCCCGAGGC GACGCTGGGT CCGTGC'TGGG
551  GCTGTTCGTG CGGCTCTGAT CCCGGGGTGG GCAGAGCGGG GCTTCCGGGT
601  GGGCGGCCCC TGGCACTCCT GTACCGCTGC TGCTTTTGTG GTGAAGACCA
651  CCCGCGGCAG GGCAGCATCC TCTACAGCTT GCTCACTAGC TCAAAGCAAA
701  CGCACGTGGC TCCGGCAGCG CCCGAGGCAC GGCCAGGGGG CGCGTGGTGG
751  GACCGCTCCT ACTTCGCGCA GAGGCCAGGG GGTAAAGAGG CGCTACCAGG
801  CGGGCGGGCC ACGGCGCTTC CTCTACTGCG TGCCCACGAG CACAAATCAA
851  ACCCGCAGCA GGGCAGCACC CTCTACTGCG TGCCCACGAG CACAAATCAA
901  GCGCAGGCGG CTCCGGAGGA GCGGCCGAGG GCGCCCTGGT GGGACACCTC
951  CTCTGGTGCG CTGCGGCCGG TGGCGCTCAA GAGTCCACAG GTGGTCTGCG
1001  AGGCAGCCTC AGCGGGCCTG TTGAAGACGC TGCGCTTCGT CAAGTACTTG
1051  CCCTGCTTCC AGGTGCTGCC CCTGGACCAG CAGCTGGTGC TGGTGC'GCAA
1101  CTGCTGGGCG TCCCTGCTCA TGCTTGAGCT GGCCCAGGAC CGCTTGCAGT
1151  TCGAGACTGT GGAAGTCTCG GAGCCCAGCA TGCTGCAGAA GATCCTCACC
1201  ACCAGGCGGC GGGAGACCGG GGGCAACGAG CCACTGCCCC TGCCCACGCT
1251  GCAGCACCAT TTGGCACCGC CGGCGGAGGC CAGGAAGGTG CCCTCCGCCT
1301  CCCAGGTCCA AGCCATCAAG TGCTTTCTTT CCAAATGCTG GAGTCTGAAC
1351  ATCAGTACCA AGGAGTACGC CTACCTCAAG GGGACCGTGC TCTTTAACCC
1401  GGACGTGCCG GGCCTGCAGT GCGTGAAGTA CATT'CAAGGA CTCCAGTGGG
1451  GAACTCAGCA AATACTCAGT GAACACACCA GGATGACGCA CCAAGGGCCC
1501  CATGACAGAT TCATCGAACT TAATAGTACC CTTTTCCTGC TGAGATTCAT
1551  CAATGCCAAT GTCATTGCTG AACTGTTCTT CAGGCCCATC ATCGGCACAG
1601  TCAGCATGGA TGATATGATG CTGGAAATGC TCTGTACAAA GATATAAAGT
1651  CATGTGGGCC ACACAAGTGC AGTAGTGCAG TTCACCATGA GGAAGAATA
1701  AAGAGCTGTG GGCAAAAGAG TGTAATATAT TTTAAATAA ACTTTCTTAA
1751  TATTTTACCA TGCAGAGTAT TTTGATCTTC AATTAAAGAA ATAATTTTAT
1801  TCCCAGCACA GTCACAAATT TCTCTGTTCC ATAGTTAAAG AAGACATTTG
1851  CCAACAGGTA GCATAGCTCT GTACATCTTT TAAAAAATAA ATCGCAGGGT
1901  ACTAGTATAA TAAGCTATTT TCACAAGCGC AGCAATTTCA TGGAACCTGC
1951  TCAAATCAAA TTTGTACATA TTGTTATAAT AAATTTTAAG GTCTTAAC'TA
2001  TTAACCTGAT TGAAAAAAGC TT

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Figure 6: SEQ ID NO. 3: nucleotide sequence of human DAX-1 coding sequence

Length: 1413 bp

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1  ATGGCGGGCG AGAACCACCA GTGGCAGGGC AGCATCCTCT ACAACATGCT
51  TATGAGCGCG AAGCAAACGC GCGCGGCTCC TGAGGCTCCA GAGACGCGGC
101 TGGTGGATCA GTGTTGGGGC TGTTCTGTGC GCGATGAGCC CGGGGTGGGC
151 AGAGAGGGGC TGCTGGGCGG GCGGAACGTG GCGCTCCTGT ACCGCTGCTG
201 CTTTTGCGGT AAAGACCACC CACGGCAGGG CAGCATCCTC TACAGCATGC
251 TGACGAGCGC AAAGCAAACG TACGCGGCAC CGAAGGCGCC CGAGGCGACG
301 CTGGGTCCGT GCTGGGGCTG TTCGTGCGGC TCTGATCCCG GGGTGGGCAG
351 AGCGGGGCTT CCGGGTGGGC GGCCCGTGCC ACTCCTGTAC CGCTGCTGCT
401 TTTGTGGTGA AGACCACCCG CGGCAGGGCA GCATCCTCTA CAGCTTGCTC
451 ACTAGCTCAA AGCAAACGCA CGTGGCTCCG GCAGCGCCCG AGGCACGGCC
501 AGGGGGCGCG TGGTGGGACC GCTCCTACTT CGCGCAGAGG CCAGGGGGTA
551 AAGAGGCGCT ACCAGGCGGG CGGGCCACGG CGCTTCTGTA CCGCTGCTGC
601 TTTTGCGGTG AAGACCACCC GCAGCAGGGC AGCACCTCTT ACTGCGTGCC
651 CACGAGCACA AATCAAGCGC AGGCGGCTCC GGAGGAGCGG CCGAGGGCCC
701 CCTGGTGGGA CACCTCCTCT GGTGCGCTGC GGCCGGTGCC GCTCAAGAGT
751 CCACAGGTGG TCTGCGAGGC AGCCTCAGCG GGCCTGTTGA AGACGCTGCG
801 CTTCTCAAG TACTTGCCCT GCTTCCAGGT GCTGCCCCTG GACCAGCAGC
851 TGGTGCTGGT GCGCAACTGC TGGGCGTCCC TGCTCATGCT TGAGCTGGCC
901 CAGGACCGCT TGCAGTTCGA GACTGTGGAA GTCTCGGAGC CCAGCATGCT
951 GCAGAAGATC CTCACCACCA GCGGGCGGGA GACCGGGGGC AACGAGCCAC
1001 TGCCCGTGCC CACGCTGCAG CACCATTGCG CACCGCCGGC GGAGGCCAGG
1051 AAGGTGCCCT CCGCCTCCCA GGTCCAAGCC ATCAAGTGCT TTCTTTCCAA
1101 ATGCTGGAGT CTGAACATCA GTACCAAGGA GTACGCCTAC CTCAAGGGGA
1151 CCGTGCTCTT TAACCCGGAC GTGCCGGGCC TGCAGTGCGT GAAGTACATT
1201 CAGGGACTCC AGTGGGGAAC TCAGCAAATA CTCAGTGAAC ACACCAGGAT
1251 GACGCACCAA GGGCCCCATG ACAGATTCAT CGAACTTAAT AGTACCCTTT
1301 TCCTGCTGAG ATTCATCAAT GCCAATGTCA TTGCTGAACT GTTCTTCAGG
1351 CCCATCATCG GCACAGTCAG CATGGATGAT ATGATGCTGG AAATGCTCTG
1401 TACAAAGATA TAA

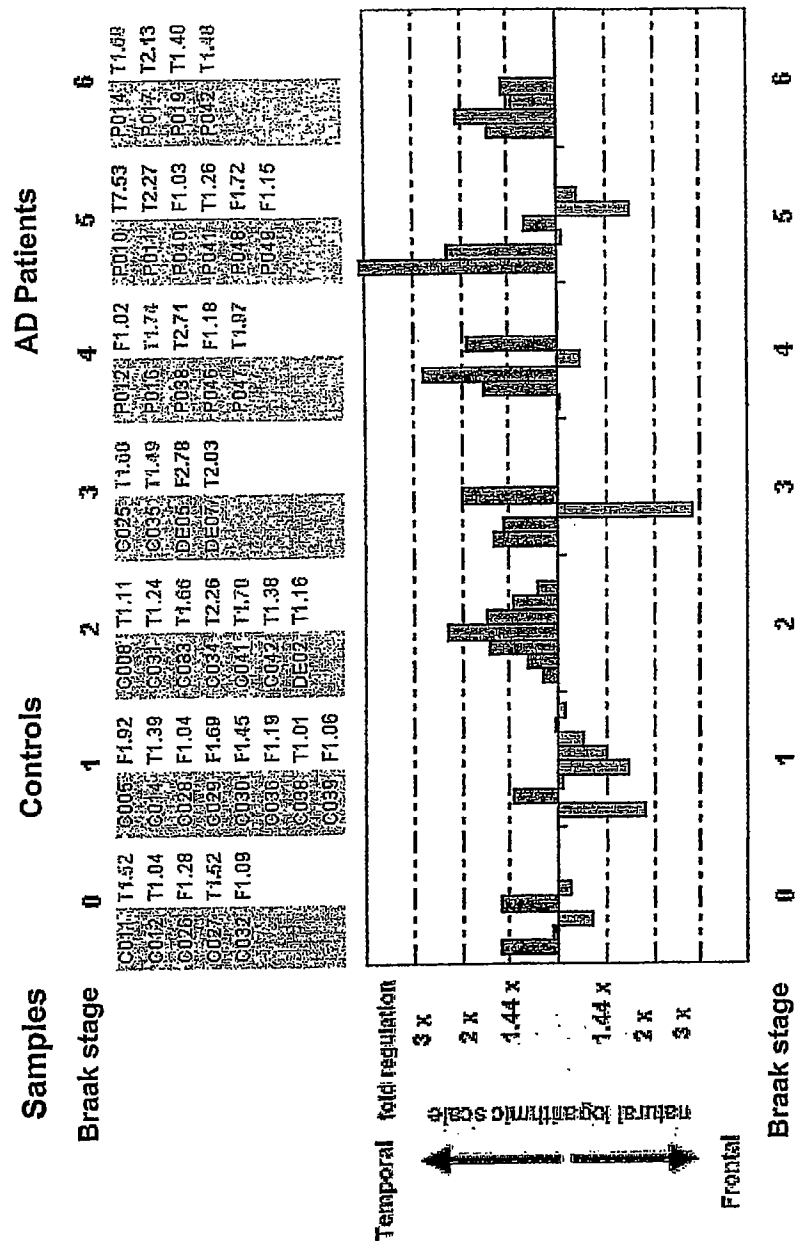
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Figure 7: Alignment of DAX-1 primers with human DAX-1 cDNA, SEQ ID NO. 2

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      1 TACCAAGGAGTACGCCTACCTCA 23  
      ||||||||||||||||  
1356 TACCAAGGAGTACGCCTACCTCA 1378
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      20 TGCTCTTTAACCCGGACGTG 1  
      ||||||||||||||||  
1388 TGCTCTTTAACCCGGACGTG 1407
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Figure 8 :



**Figure 10: Western Blot of total human brain extracts
labeled with anti-DAX-1 antibodies**

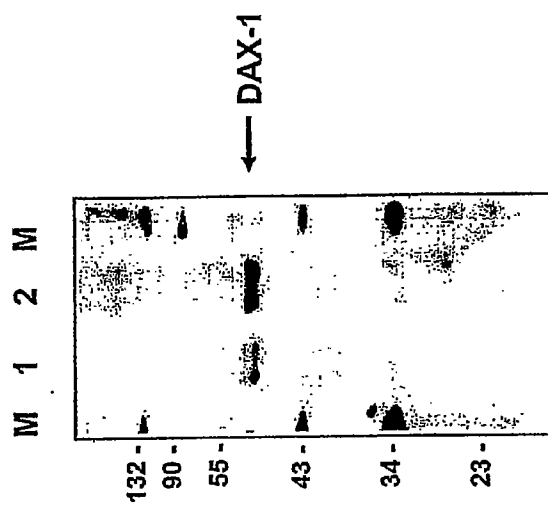
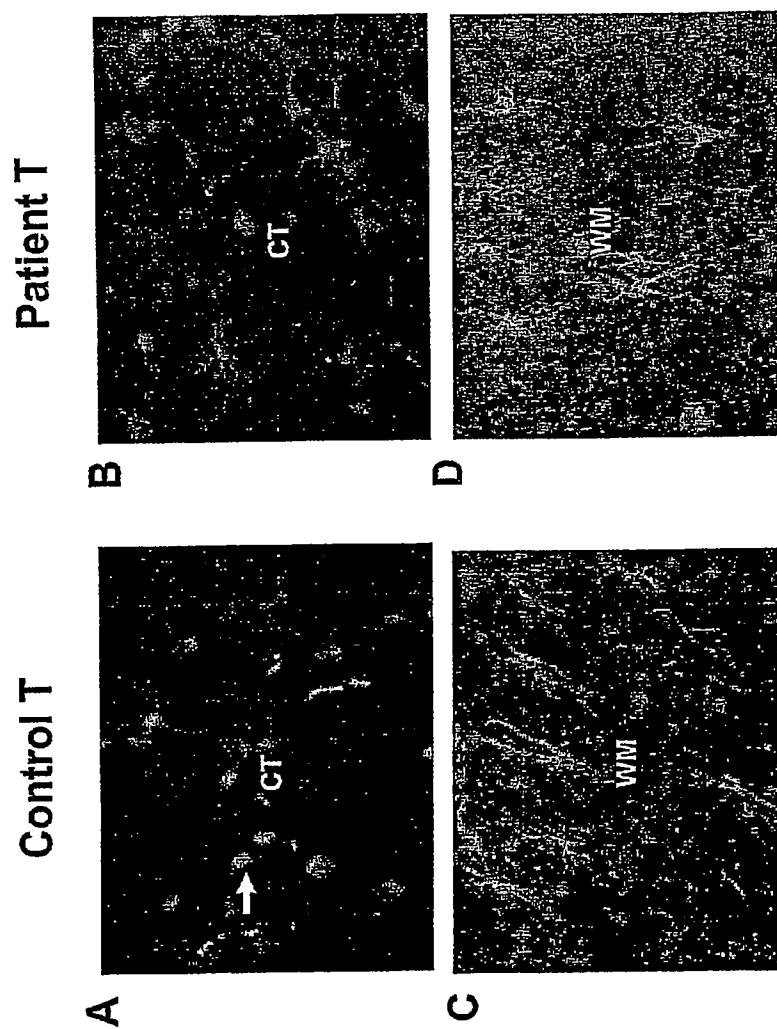


Figure 11: Images of human brain sections labeled with anti-DAX-1 antiserum and with DAPI



**Figure 12: Immunofluorescence analysis of
DAX-1 protein in neuroglioma cells**

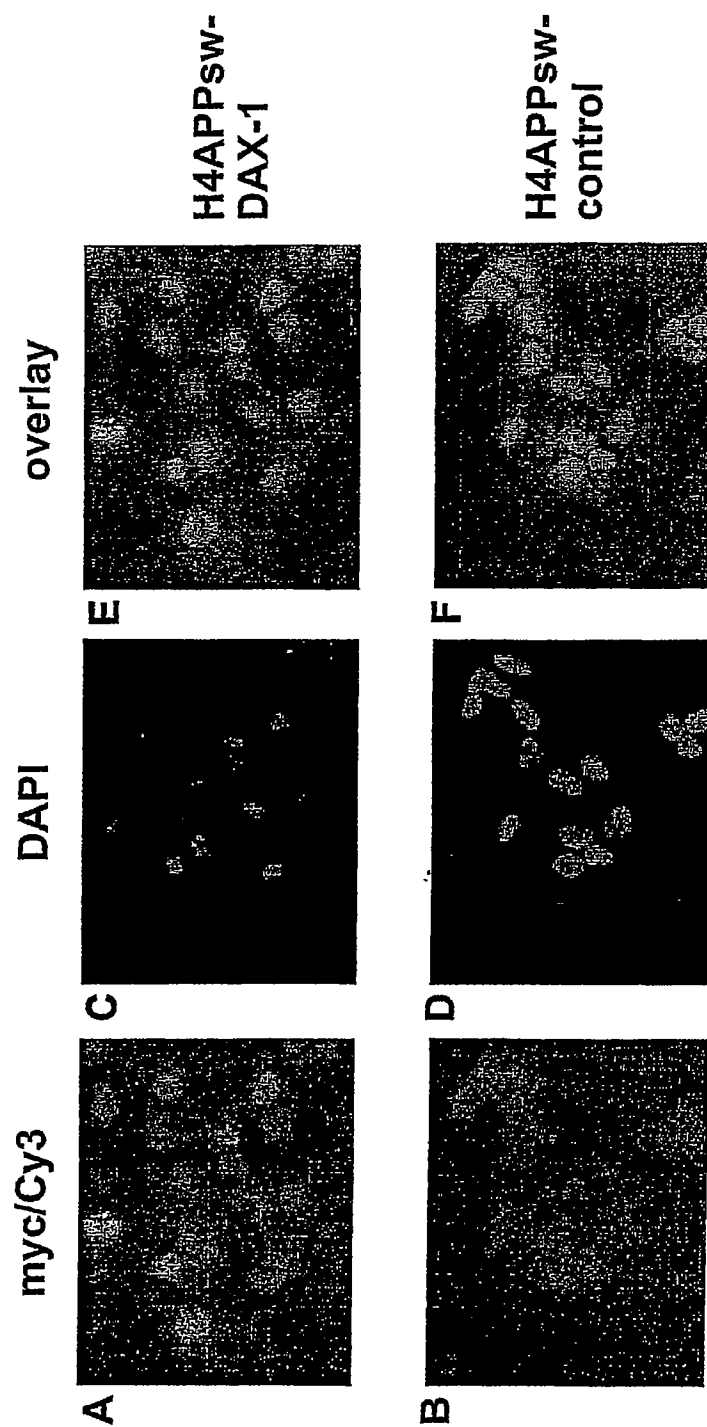


Figure 13: Effect of trophic factor deprivation on DAX-1 over-expressing cells

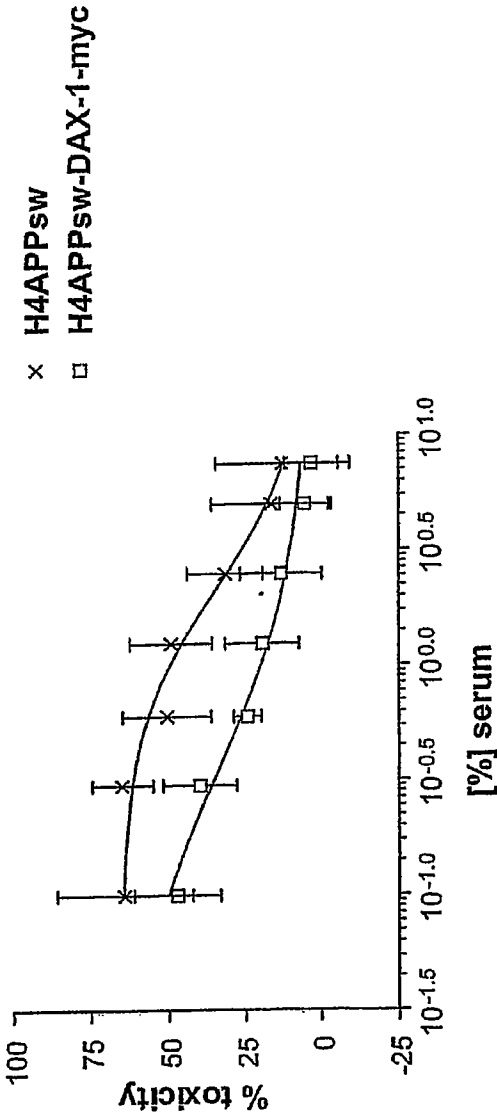
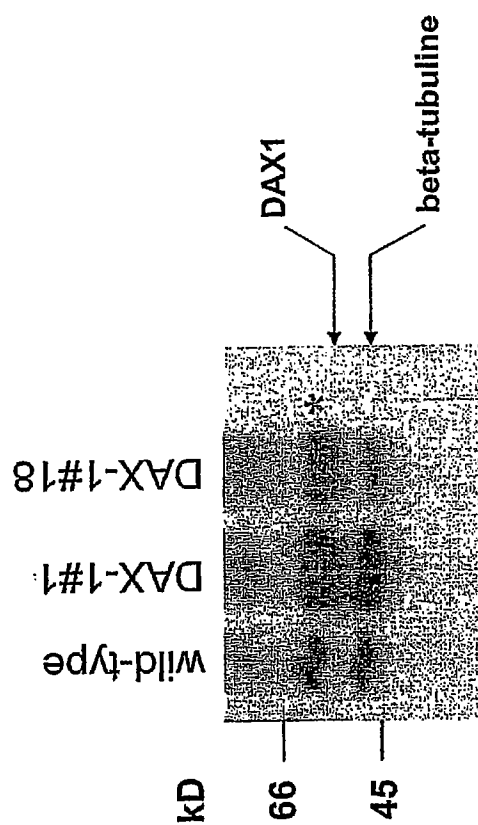


Figure 14: DAX-1 Protein expression in transgenic flies



**Figure 15: DAX-1 Protein expression in the retina
of adult flies**

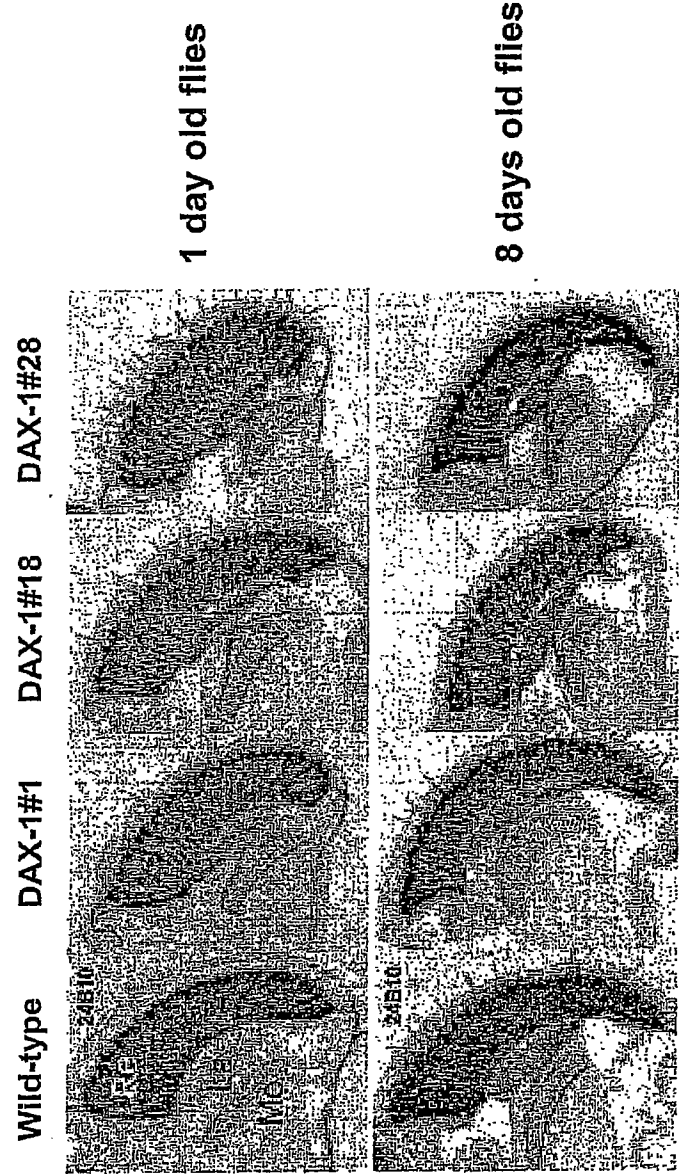
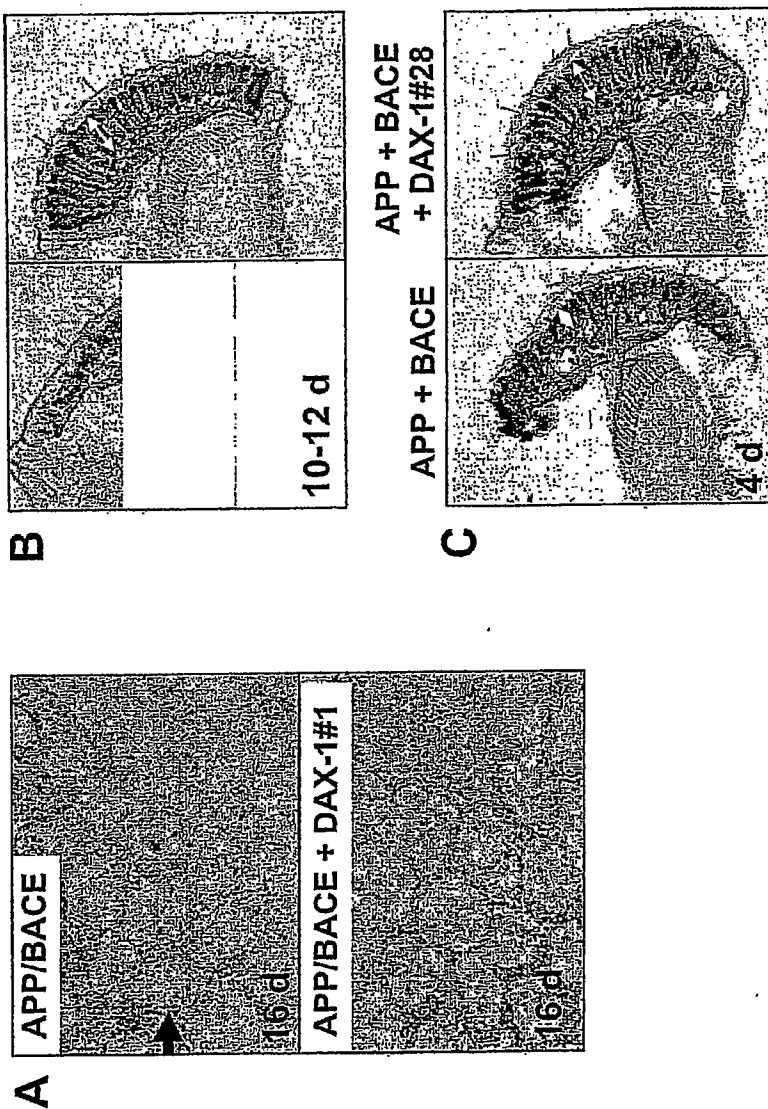


Figure 16: DAX-1 rescues photoreceptor cell degeneration induced by APP/BACE



**Figure 17: Thioflavin S positive amyloid plaques
in DAX-1 expressing flies**

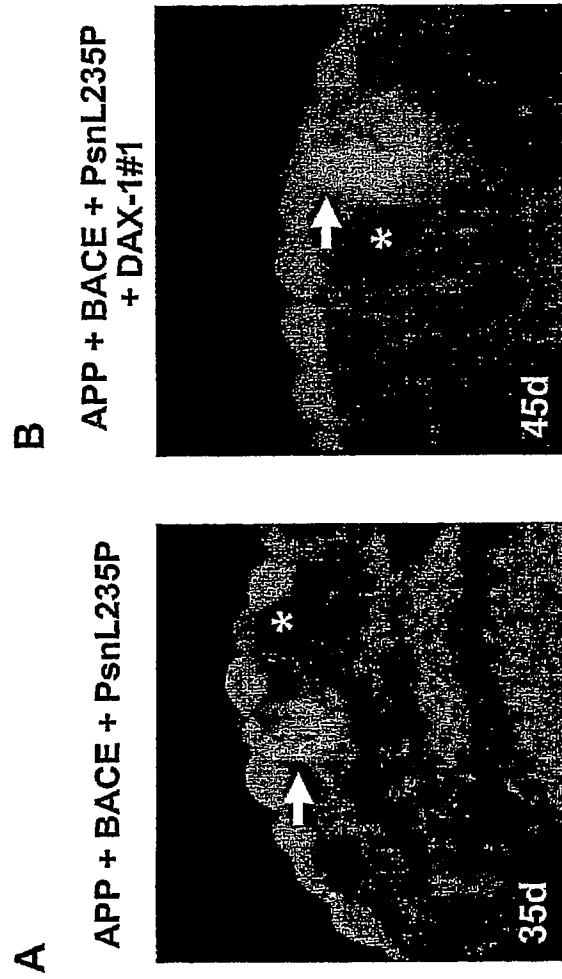


Figure 18: DAX-1 rescues photoreceptor cell degeneration induced by TAU

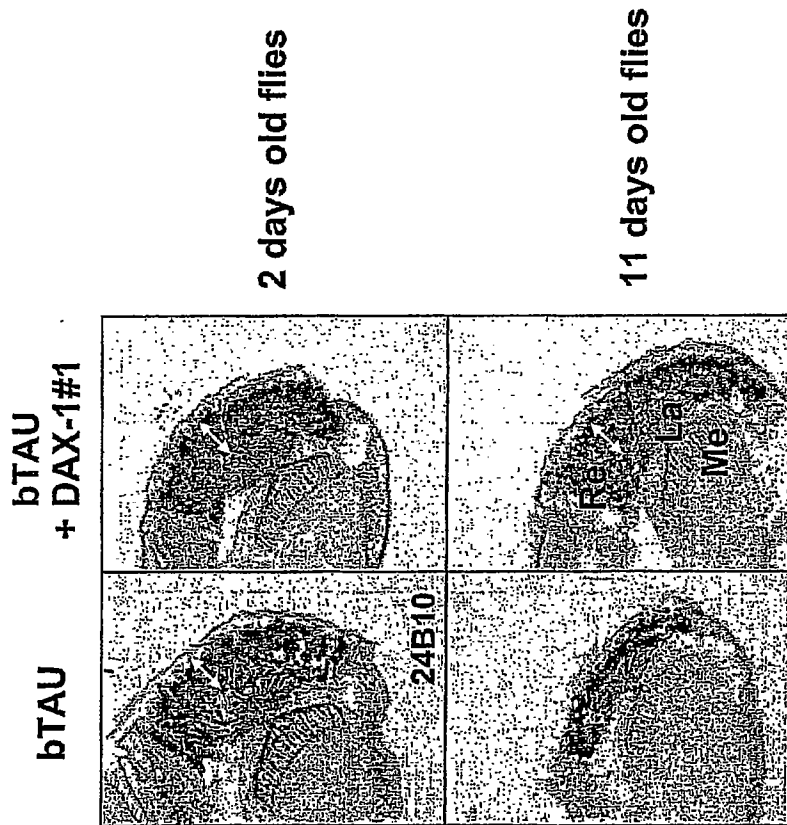


Figure 19: Generation of DAX-1 transgenic mice

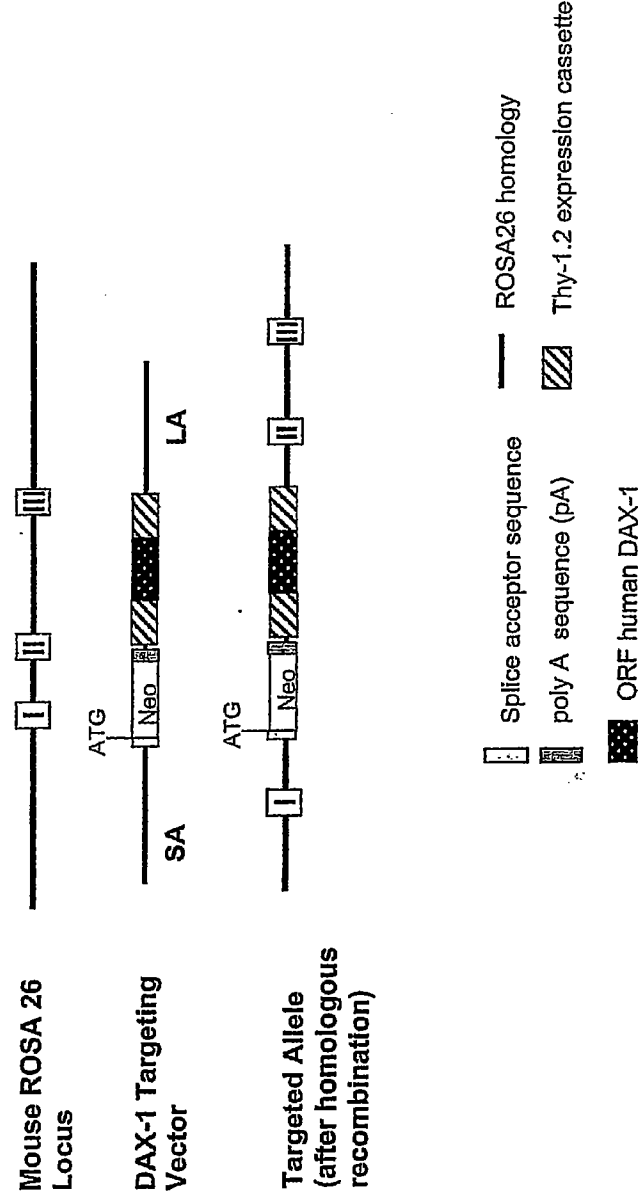


Figure 20: DAX-1 targeted ES cell clones

